

Amendment and Response Under 37 C.F.R. 1.116

Applicant: David Vaughnn

Serial No.: 10/622,847

Filed: July 18, 2003

Docket No.: A126.115.102

Title: OPTICAL THROUGHPUT CONDENSER

IN THE CLAIMS

Please amend claims 9 and 15 as follows:

- 1.(Withdrawn) An optical throughput condenser comprising:
a transmissive substrate
an angle gate created via a thin film dielectric coating deposited on the transmissive substrate such that light striking the coated surface with a range of gate angles less than or equal to the gate angle transmits through the thin film, while light striking the coated surface with a range of gate angles greater than the gate angle reflects back from the thin film; and
an integrating sphere positioned such that light reflecting back from the thin film is directed towards the integrating sphere so that the light is subsequently redirected towards the angle gate.
- 2.(Withdrawn) The optical throughput condenser of claim 1, wherein the angle gate is defined by an angle of incidence of the thin film.
- 3.(Withdrawn) The optical throughput condenser of claim 1, wherein the thin film has a sharp angularly dependent transmission.
- 4.(Withdrawn) The optical throughput condenser of claim 1, and further comprising:
a final product of light equaling all light striking the thin film within the angle gate and transmitted through the thin film.

Amendment and Response Under 37 C.F.R. 1.116

Applicant: David Vaughnn

Serial No.: 10/622,847

Filed: July 18, 2003

Docket No.: A126.115.102

Title: OPTICAL THROUGHPUT CONDENSER

5.(Withdrawn) The optical throughput condenser of claim 1, and further comprising:

a plurality of micro retro reflectors positioned on a portion of the integrating sphere.

6.(Withdrawn) The optical throughput condenser of claim 5, wherein the plurality of micro retro reflectors are positioned on the portion of the integrating sphere to substantially reverse an incident ray direction of the light reflected back from the thin film.

7.(Withdrawn) The optical throughput condenser of claim 1, and further comprising:

an illuminating source positioned within the integrating sphere.

8.(Withdrawn) The optical throughput condenser of claim 1, and further comprising:

a first illuminating source positioned outside of the integrating sphere; and
a second illuminating source positioned within the integrating sphere.

9.(Currently Amended) An optical illumination system comprising:

an illuminating source capable of providing light transmissions having a range of angles;

a transmissive substrate positioned in proximity to the illuminating source;

a thin film coating positioned on a surface of the transmissive substrate, the thin film coating including a gate angle (Θ_{GATE}) such that light transmissions striking the thin film coating ~~with~~ at an angle of incidence less than or equal to the gate angle (Θ_{GATE}) transmits through the thin film, while light

Amendment and Response Under 37 C.F.R. 1.116

Applicant: David Vaughnn

Serial No.: 10/622,847

Filed: July 18, 2003

Docket No.: A126.115.102

Title: OPTICAL THROUGHPUT CONDENSER

transmissions striking the thin film coating ~~with~~ at an angle of incidence greater than the gate angle (Θ_{GATE}) reflects back from the thin film; and an integrating sphere positioned such that light transmissions reflecting back from the thin film ~~is~~ are directed within the integrating sphere and subsequently redirected towards the thin film coating.

10.(Previously Amended) The optical illumination system of claim 9, wherein a final product of light is generated equaling the combination of all light transmission transmitted through the thin film.

11.(Previously Amended) The optical illumination system of claim 9, and further comprising:

a plurality of micro retro reflectors positioned on a portion of an inner surface of the integrating sphere.

12.(Previously Amended) The optical illumination system of claim 11, wherein the plurality of micro retro reflectors are positioned on the portion of the integrating sphere to substantially reverse an incident ray direction of the portion of light transmission reflected back from the thin film.

13.(Original) The optical illumination system of claim 9, wherein the illuminating source is positioned within the integrating sphere.

14.(Previously Amended) The optical illumination system of claim 9, wherein the illuminating source is positioned outside of the integrating sphere and further comprising:

at least one additional illuminating source positioned within the integrating sphere.

Amendment and Response Under 37 C.F.R. 1.116

Applicant: David Vaughnn

Serial No.: 10/622,847

Filed: July 18, 2003

Docket No.: A126.115.102

Title: OPTICAL THROUGHPUT CONDENSER

15.(Currently Amended) A method of re-concentrating light within an optical illumination system, comprising:

transmitting a series of light transmission from an illuminating source;

directing the series of light transmission towards a thin film such that a first

portion of the series of light transmissions ~~having a gate angle less than or~~

~~equal to a gate angle of the thin film is transmitted striking the thin film at~~

an angle of incidence less than or equal to a gate angle (Θ_{GATE}) of the thin

film transmits through the thin film and a second portion of the series of

light transmissions ~~having a gate angle greater than the gate angle of the~~

~~thin film is reflected striking the thin film at an angle of incidence greater~~

than the gate angle (Θ_{GATE}) of the thin film reflects back from the thin film;

redirecting the second portion of the series of light transmissions towards the thin film; and

generating a final product of light transmissions equaling all light portions transmitted through the thin film.